

U.S. General Services Administration  
Federal Acquisition Service  
Office of IT Schedule 70 Contract Operations

Proposed changes to IT Schedule 70's Cloud Special  
Item Numbers (SIN)  
(132-40)

Request for Information (RFI)

September 24, 2018

## **Table of Contents**

- A. Introduction
- B. Summary of Proposed Changes
- C. Proposed Changes to the IT Schedule 70 “Solicitation” pertaining to Cloud SIN 132-40
- D. Proposed Changes to the IT Schedule 70 “Critical Information Supplement” pertaining to Cloud SIN 132-40
- E. Questions for Industry
- F. Questions for Government Agencies
- G. Deadline for Responses
- H. Use of Results and Confidentiality

## A. Introduction

The Government's desire to move legacy data centers to Cloud environments, along with the rapidly evolving Cloud delivery models, provided by vendors, requires GSA to update the definitional requirements of Cloud computing under Special Item Number (SIN) 132-40. This proposed update to the Cloud SIN seeks to enhance the ability of vendors and the Government to more efficiently provide and acquire Cloud applications and supporting services as a solution.

The proposed changes are:

- Revising the name of the SIN to reflect "Cloud and Cloud-Related IT Professional Services."
- Addition of clarifying language to solve ambiguities about the necessity of "metering," as required by the NIST Cloud essential characteristics. In short, SIN 132-40 now clarifies that Cloud products must have discrete "pay as you go" measurements of appropriate compute resources to ensure the Government realizes the benefit of Cloud deployments.
- Addition of IT Professional Services to the SIN. This change will allow IT services organizations to provide IT professional services in direct support of Cloud migration and adoption. The focus of these IT professional services shall be aligned to assessing Cloud solutions, preparing for Cloud solutions, refactoring workloads for Cloud solutions, migrating Cloud solutions, and providing governance to Cloud solutions.
- Evaluation factors will be removed from Critical Element terms and conditions and moved to CI-FSS-152-N ADDITIONAL EVALUATION FACTORS FOR NEW OFFERORS UNDER SCHEDULE 70.

**[Within this document, the phrase "cloud (computing) services" or "cloud (computing) products" shall mean commodity cloud products such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), or Software as a Service (SaaS), etc. Cloud-Related IT Professional Services shall mean the cloud related IT professional services (e.g., labor categories) in support of cloud services. ]**

The proposed changes will allow Government customers to more easily procure either:

1. Cloud Services only (i.e. SaaS, etc.);
2. Cloud-computing related IT professional services only; or
3. Cloud Services (i.e. SaaS, etc.) and supporting cloud computing-related IT professional services.

PLEASE NOTE THAT THIS RFI HIGHLIGHTS THE PROPOSED CHANGES TO BOTH THE SOLICITATION AND THE CRITICAL INFORMATION ADDENDUM TO THE SOLICITATION AS THEY RELATE TO CLOUD ONLY.

## B. Summary of Changes

### 1) Clarification of "Measured Service"

The Cloud SIN has been updated to include a more precise interpretation of one of the five NIST essential characteristics that define Cloud products. Previously, the "Measured Service" characteristic left some ambiguity as to the precision and frequency of measurements. Particularly in the area of Software as a Service (SaaS), some vendors believed that fixed priced annual usage agreements, more akin to annual subscription fees or term user licenses, met the requirement of "Measured Service."

In order for the Government to realize the full benefit of Cloud products, more frequent increments of measurement are needed to ensure that the spirit of “pay as you go,” and the benefit of flexible and elastic resourcing can be realized. The updated language of the SIN now requires a “minimal pay as you go unit of measurement, appropriate to the service.” In the case of SaaS products, this is no more than one month per one user or some other equivalent discrete measurement that provides the Government with frequent metering cycles. Products that require a flat rate on an annual or semi-annual basis (that do not meet the NIST definition of Cloud), may fit better under the Software Term Licenses SIN 132-32 or the Electronic Commerce and Subscription Services SIN 132-52.

## 2) Cloud Computing Related IT Professional Services

The Cloud SIN has been modified to accommodate IT professional services that are focused on providing the types of services that support the Government’s adoption of and migration to Cloud computing. Vendors must only offer specific labor categories and/or fixed price solutions (e.g. migration services, etc.) on the Cloud SIN that support activities associated with assessing Cloud solutions, refactoring workloads for Cloud solutions, migrating legacy or other systems to Cloud solutions, providing governance to Cloud solutions, or other Cloud oriented activities. Contractors may propose other types of relevant services, as long as they are specifically designed to support delivery or migration to the type of Cloud products offered under 132-40.

Labor categories under Special Item Number 132-51, Information Technology Professional Services may remain there, unless they are specific to Cloud Computing Labor Hours. Labor categories that are uniquely focused on supporting Cloud Computing should be offered only under SIN 132-40.

Note: Offerors are not required to provide both Cloud Products and Cloud IT Professional Services. They may offer one or the other, or both, if they have the full complement of capabilities.

### Proposed Changes to the IT Schedule 70 “Solicitation” pertaining to the Cloud SIN 132-40

PLEASE NOTE: LANGUAGE THAT IS NOTED WITH ~~STRIKETHROUGH~~ ARE PROPOSED DELETIONS. LANGUAGE THAT IS IN **[BOLD ITALICS AND BRACKETS]** ARE THE PROPOSED CHANGES

#### 132 40--- Cloud **[And Cloud Related Professional]** Services - SUBJECT TO COOPERATIVE PURCHASING

[Cloud Services (i.e. SaaS, etc.) ] includes commercially available cloud computing services such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) and emerging cloud services. The ~~new~~ Cloud SIN is open to all deployment models (private, public, community hybrid). ~~NOTE: Please see the additional terms and conditions applicable to this Special Item Number (SIN) found in a separate attachment to the Solicitation. These terms and conditions do not contain specific and negotiated contractual language for this SIN. The Schedule contractor may have submitted additional information to complete the "fill-in" to the terms and conditions. The ordering activities shall request the Schedule contractors to submit these additional contract terms and conditions for this applicable SIN when responding to an order. Ordering activities may request from Schedule contractors their awarded End User License Agreements (EULAs) or Terms of Service (TOS) Agreements, which will assist the ordering activities with reviewing the terms and conditions and additional products and services and prices which, may be included.~~

***[Cloud-Related IT Professional Services include only IT professional services related to assessing cloud solutions, preparing for cloud solutions, refactoring workloads for cloud solutions, migrating legacy or other systems to cloud solutions, and providing governance for cloud solutions. Contractors may propose other types of relevant services as long as they are specifically designed to support the types of cloud products described in SIN 132-40.]***

Cloud-Related IT Professional Services excludes IT professional services within the scope of SIN 132-45A Penetration Testing, SIN 132-45B Incident Response, SIN 132-45C Cyber Hunt, SIN 132-45D Risk and Vulnerability Assessment (RVA) Services, and non-Cloud oriented IT Professional Services available within SIN 132-51.

NOTE: Please see the additional terms and conditions applicable to this Special Item Number (SIN) found in a separate attachment to the Solicitation. These terms and conditions do not contain specific and negotiated contractual language for this SIN. The Schedule contractor may have submitted additional information to complete the "fill-in" to the terms and conditions. The ordering activities shall request the Schedule contractors to submit these additional contract terms and conditions for this applicable SIN when responding to an order.

Ordering activities may request from Schedule contractors their awarded Commercial Supplier Agreements (CSAs)/End User License Agreements (EULAs) or Terms of Service (TOS) Agreements, which will assist the ordering activities with reviewing the terms and conditions and additional products and services and prices which, may be included.

3.

NOTE: Any non-professional labor category must be incidental to and used solely to support Cloud Computing and/or IT professional services, and cannot be purchased separately. Further, non-professional labor categories shall be offered under SIN 132 100 only.]

NOTE: If the automated technical proposal elements is not visible in the eoffer module, submit a separate attachment containing your technical proposal response for SIN 132-40.

#### ***NAICS [Relevant for Cloud Products]***

<b>Number</b>	<b>Description</b>	<b>Business Size</b>
518210	Data Processing, Hosting, and Related Services	\$32.5 million

#### ***SubSIN Categorie(s):***

FSC/PSC Class D305 IT AND TELECOM- TELEPROCESSING,  
TIMESHARE, AND CLOUD COMPUTING

- Cloud Computing Services

#### ***[NAICS Relevant for Cloud-Related IT Professional Services***

<b>Number</b>	<b>Description</b>	<b>Business Size</b>
541511	Custom Computer Programming Services	\$27.5 million
541512	Computer Systems Design Services	\$27.5 million
541513	Computer Facilities Management Services	\$27.5 million
541519	Other Computer Related Services	\$27.5 million

***NOTE: Exception: According to SBA standards NAICS code 541519 has the dollar value standard of \$27.5 million except if you are a Value Added Reseller (150 employee standard).***

For more information, please visit

[http://www.naics.com/naicswp2014/wp-content/uploads/2014/10/2014-Size\\_Standards\\_Table.pdf](http://www.naics.com/naicswp2014/wp-content/uploads/2014/10/2014-Size_Standards_Table.pdf)

*SubSIN Categorie(s):*

***FSC/PSC Class D302 IT AND TELECOM- SYSTEMS DEVELOPMENT***

- *Systems Development Services*

***FSC/PSC Class D306 IT AND TELECOM- SYSTEMS ANALYSIS***

- *Systems Analysis Services*

***FSC/PSC Class D307 IT AND TELECOM- IT STRATEGY AND ARCHITECTURE***

- *Automated Information Systems Services*

***FSC/PSC Class D308 IT AND TELECOM- PROGRAMMING***

- *Programming Services*

***FSC/PSC Class D310 IT AND TELECOM- CYBER SECURITY AND DATA BACKUP***

- *Backup and Security Services*

***FSC/PSC Class D311 IT AND TELECOM- DATA CONVERSION***

- *Data Conversion Services*

***FSC/PSC Class D313 IT AND TELECOM- COMPUTER AIDED DESIGN/COMPUTER AIDED MANUFACTURING (CAD/CAM)***

- *Computer Aided Design Services*
- *Computer Aided Manufacturing Services*

***FSC/PSC Class D316 IT AND TELECOM- TELECOMMUNICATIONS NETWORK MANAGEMENT***

- *IT Network Management Services*

***FSC/PSC Class D317 IT AND TELECOM- WEB-BASED SUBSCRIPTION***

- *Creation/Retrieval of IT Related Data Services*
- *Creation/Retrieval of Other Information Services*
- *Creation/Retrieval of IT Related Automated News Services*

***FSC/PSC Class D399 IT AND TELECOM- OTHER IT AND TELECOMMUNICATIONS***

- *Other Information Technology Services, Not Elsewhere Classified*

## Proposed Changes to the IT Schedule 70 “Critical Information Supplement” pertaining to the Cloud SIN 132-40

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LANGUAGE THAT IS IN [***BOLD ITALICS AND BRACKETS***] ARE THE PROPOSED CHANGES

### TERMS AND CONDITIONS APPLICABLE TO PURCHASE OF CLOUD COMPUTING [***PRODUCTS AND PROFESSIONAL***] SERVICES (SPECIAL ITEM NUMBER 132-40)

~~\*\*\*\*NOTE: If offering related IT Professional Services over and above initial onboarding and training, reference SIN 132-51, per Guidance to Ordering Activities on Professional services below.~~

\*\*\*\*NOTE: This new SIN presents a solution for Contractors to provide cloud computing services [***and cloud-related IT professional services***] ~~according to~~ [***that comply with***] NIST definitions and principles within the scope of today’s technology and standards with a secondary goal of accommodating ongoing technical advances in cloud computing. [***SIN 132-40 Cloud Computing Services and Cloud-Related IT Professional Services is designed to cover core Cloud Services including Infrastructure as a Service, Platform as a Service, and Software as a Service, as well as the Cloud-related IT Professional Services required to assess, prepare, refactor, migrate, integrate or govern a Cloud implementation.***]

#### 1. SCOPE

The prices, terms and conditions stated under Special Item Number (SIN) 132-40 Cloud Computing [***Services (i.e. IaaS, etc.) and Cloud-Related Professional***] Services apply exclusively to Cloud Computing [***Services (i.e. IaaS, etc.) and Cloud-Related Professional***] Services within the scope of this Information Technology Schedule.

This SIN provides ordering activities with access to [***Cloud (i.e. SaaS, etc.)***] ~~technical~~ services that run in cloud environments and meet the NIST Definition of Cloud Computing Essential Characteristics. [***Cloud***] Services [***(i.e. SaaS, etc.)***] relating to or impinging on cloud that do not meet all NIST essential characteristics should be listed in other SINs. [***(For example: Software subscription services or Software as a Service offerings that do not meet the essential “measured service” requirement may meet the definition of “Term Licenses” under SIN 132-32. See the Measured Service requirement in Table 2, below.)***]

The scope of this SIN is limited to cloud capabilities provided entirely as a [***“pay as you go”***] service [***and cloud-related IT professional services***]. Hardware, software and other artifacts [***acquired to***] ~~supporting~~ the physical construction of a private or other cloud are out of scope for this SIN. Currently, an Ordering Activity can procure the hardware and software needed to build [***private***] ~~on-premise~~ cloud functionality, through combining different services on other IT Schedule 70 SINs (e.g. [***132-8, 132-32, 132-33, 132-34, 132-52***] 132-51).

Sub-categories in scope for this SIN are the three NIST Service Models: Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). Offerors may optionally select a single sub-category that best fits a proposed cloud service offering. Only one

sub-category may be selected per each proposed cloud service offering. Offerors may elect to submit multiple cloud service offerings, each with its own single sub-category. The selection of one of three sub-categories does not prevent Offerors from competing for orders under the other two sub-categories.

See service model guidance for advice on sub-category selection.

Sub-category selection within this SIN is optional for any individual cloud service offering, and new cloud computing [service (i.e. IaaS, etc.)] technologies that do not align with the aforementioned three sub-categories may be included without a sub-category selection so long as they comply with the essential characteristics of cloud computing as outlined by NIST.

See Table 1 for a representation of the scope and sub-categories.

**Table 1: Cloud Computing [Product] Services SIN 132-40**

SIN Description	Sub-Categories <sup>1</sup>
<ul style="list-style-type: none"> <li>Commercially available cloud computing services [(i.e. IaaS, etc.)]</li> <li>Meets the National Institute for Standards and Technology (NIST) definition of Cloud Computing essential characteristics</li> <li>Open to all deployment models (private, public, community or hybrid), vendors specify deployment models</li> </ul>	<ol style="list-style-type: none"> <li><b>Software as a Service (SaaS):</b> Consumer uses provider's applications on cloud infrastructure. Does not manage/control platform or infrastructure. Limited application level configuration may be available.</li> <li><b>Platform as a Service (PaaS):</b> Consumer deploys applications onto cloud platform service using provider-supplied tools. Has control over deployed applications and some limited platform configuration but does not manage the platform or infrastructure.</li> <li><b>Infrastructure as a Service (IaaS):</b> Consumer provisions computing resources. Has control over OS, storage, platform, deployed applications and some limited infrastructure configuration, but does not manage the infrastructure.</li> </ol>

## 2. DESCRIPTION OF CLOUD COMPUTING [PRODUCT] SERVICES AND PRICING

**\*\*NOTE TO CONTRACTORS:** The information provided below is designed to assist Contractors in qualifying cloud computing services [(i.e. IaaS, etc.)] for this SIN and providing complete descriptions and pricing information. This language should NOT be printed as part of the Information Technology Schedule Pricelist; instead, Contractors should respond to each service requirement as it relates to each cloud computing service [(i.e. IaaS, etc.)] offered under the contract. There is guidance provided in subsequent sections of the Terms and Conditions to assist in determining how to meet these requirements. This section delineates requirements for submitting a

<sup>1</sup> Offerors may optionally select the single sub-category that best fits each cloud service offering, per Service Model Guidance, or select no sub-category if the offering does not fit an existing NIST service model.



**proposal for the Cloud [*Services (i.e. IaaS, etc.)*], as well as requirements that apply to Task Orders\*\***

**a. Service Description Requirements for Listing Contractors**

The description requirements below are in addition to the overall Schedule 70 evaluation criteria described in SCP-FSS-001-N Instructions Applicable to New Offerors (Alternate I – MAR 2016) or SCP-FSS-001-S Instructions Applicable to Successful FSS Program Contractors, as applicable, SCP-FSS-004 and other relevant publications.

Refer to overall IT Schedule 70 requirements for timelines related to description and other schedule updates, including but not limited to clauses 552.238-81 – section E and clause I-FSS-600.

Table 2 summarizes the additional Contractor-provided description requirements for services proposed under the Cloud Computing Services [(i.e IaaS, etc.)]. All [mandatory] description requirements must be complete, and adequate according to evaluation criteria.

In addition, there is one “Optional” reporting description which exists to provide convenient service selection by relevant criteria. Where provided, optional description requirements must be complete and adequate according to evaluation criteria:

- The NIST Service Model provides sub-categories for the Cloud [*Services (i.e. IaaS, etc.)*] SIN and is strongly encouraged, but not required. The Service Model based sub-categories provide this SIN with a structure to assist ordering activities in locating and comparing services of interest. Contractors may optionally select the single service model most closely corresponding to the specific service offering.
- If a sub-category is selected it will be evaluated with respect to the NIST Service Model definitions and guidelines in “Guidance for Contractors”.

**Table 2: Cloud Service Description Requirements**

#	Description Requirement	Reporting Type	Instructions
1	Provide a brief written description of how the proposed cloud computing services [(i.e. IaaS, etc.)] satisfies each individual essential NIST Characteristic	Mandatory	<p>The cloud service must be capable of satisfying each of the five NIST essential Characteristics as outlined in NIST Special Publication 800-145. See ‘GUIDANCE FOR CONTRACTORS: NIST Essential Characteristics’ below in this document for detailed overall direction, as well as guidance on inheriting essential characteristics. <i>[(The NIST “Measured Service” characteristic requires a minimal “pay as you go” unit of measurement appropriate for the service. In the case of SaaS, the appropriate maximum measured increment of service shall be no more than one month per user, or some other equivalent discrete measurement that provides the government with the advantage of frequent (approximately every 30 days) “pay as you go” metering cycles. SaaS products, where consumption is only measured on an annual basis, may better fit under “Term Licenses” SIN 132-32. Likewise, offers of any combinations of IaaS, PaaS or any other cloud product services in a bundle or other fashion that do not meet the frequency requirements of approximately 30-day measurement and billing cycles, will not be accepted as complying with the NIST Measured Service characteristic.)]</i></p>
2	Select NIST deployment models for the cloud computing service proposed.	Mandatory	<p>Contractors must select at least one NIST deployment model as outlined in NIST Special Publication 800- 145 describing how the proposed cloud computing service is deployed. Select multiple deployment models if the service is offered in more than one deployment model.</p> <p>See ‘GUIDANCE FOR CONTRACTORS: NIST Deployment Model’ below in this document for detailed direction on how to best categorize a service for the NIST deployment models.</p>
3	Optionally select the most appropriate NIST service model that will be the designated sub-category, or may select	Optional	<p>Contractor may select a single NIST Service model to sub-categorize the service as outlined in NIST Special Publication 800-145. Sub-category selection is optional but recommended. See ‘GUIDANCE FOR CONTRACTORS: NIST Service Model’ below in this</p>

	no sub-category.		document for detailed direction on how to best categorize a service for the NIST IaaS, PaaS, and SaaS service models.
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**b. Pricing of Cloud Computing Services [(i.e. IaaS, etc.)]**

All current pricing requirements for IT Schedule 70, including provision SCP-FSS-001-N (Section III Price Proposal), SCP-FSS-001-S, SCP-FSS-004 (Section III Price Proposal), and clause I-FSS-600 Contract Price Lists, apply. At the current time, there is no provision for reducing or eliminating standard price list posting requirements to accommodate rapid cloud price fluctuations.

In addition to standard pricing requirements, all pricing models must have the core capability to meet the NIST Essential Cloud Characteristics, particularly with respect to on-demand self-service, while allowing alternate variations at the task order level at agency discretion, pursuant to the guidance on NIST Essential Characteristics.

**3. RESPONSIBILITIES OF THE CONTRACTOR**

The Contractor shall comply with all laws, ordinances, and regulations (Federal, State, Local, Tribal, City, or otherwise) covering work of this character.

**a. Acceptance Testing**

Any required Acceptance Test Plans and Procedures shall be negotiated by the Ordering Activity at task order level. The Contractor shall perform acceptance testing of the systems for Ordering Activity approval in accordance with the approved test procedures.

**b. Training**

If training is provided commercially the Contractor shall provide normal commercial installation, operation, maintenance, and engineering interface training on the system. Contractor is responsible for indicating if there are separate training charges.

**c. Information Assurance/Security Requirements**

The contractor shall meet information assurance/security requirements in accordance with the Ordering Activity requirements at the Task Order level.

**d. Related IT Professional Services**

The Contractor is responsible for working with the Ordering Activity to identify related IT professional services and any other services ~~available on other SINs~~ that may be associated with deploying a complete cloud **[service (i.e. IaaS, etc.)]** solution. Any additional substantial and ongoing IT professional services related to the offering such as ***[assessing, preparing, refactoring, migrating, and governing a cloud implementation may be offered per the guidelines below]***. ~~integration, migration, and other cloud professional services are out of scope for this SIN.~~

**e. Performance of Cloud Computing Services [(i.e. IaaS, etc.)]**

The Contractor shall respond to Ordering Activity requirements at the Task Order level with proposed capabilities to Ordering Activity performance specifications or indicate that only standard specifications are offered. In all cases the Contractor shall clearly indicate standard service levels, performance and scale capabilities.

The Contractor shall provide appropriate cloud computing services **[(i.e. IaaS, etc.)]** on the date and to the

extent and scope agreed to by the Contractor and the Ordering Activity.

**f. Reporting**

The Contractor shall respond to Ordering Activity requirements and specify general reporting capabilities available for the Ordering Activity to verify performance, cost and availability.

In accordance with commercial practices, the Contractor may furnish the Ordering Activity/user with a monthly summary Ordering Activity report.

**4. RESPONSIBILITIES OF THE ORDERING ACTIVITY**

The Ordering Activity is responsible for indicating the cloud computing services[(i.e. IaaS, etc.)] requirements unique to the Ordering Activity. Additional requirements should not contradict existing SIN or IT Schedule 70 Terms and Conditions. Ordering Activities should include (as applicable) Terms & Conditions to address Pricing, Security, Data Ownership, Geographic Restrictions, Privacy, SLAs, etc.

Cloud services typically operate under a shared responsibility model, with some responsibilities assigned to the Cloud Service Provider (CSP), some assigned to the Ordering Activity, and others shared between the two. The distribution of responsibilities will vary between providers and across service models.

Ordering activities should engage with CSPs to fully understand and evaluate the shared responsibility model proposed. Federal Risk and Authorization Management Program (FedRAMP) documentation will be helpful regarding the security aspects of shared responsibilities, but operational aspects may require additional discussion with the provider.

**a. Ordering Activity Information Assurance/Security Requirements Guidance**

- i. The Ordering Activity is responsible for ensuring to the maximum extent practicable that each requirement issued is in compliance with the Federal Information Security Management Act (FISMA) as applicable.
- ii. The Ordering Activity shall assign a required impact level for confidentiality, integrity and availability (CIA) prior to issuing the initial statement of work.<sup>2</sup> The Contractor must be capable of meeting at least the minimum security requirements assigned against a low-impact information system in each CIA assessment area (per FIPS 200) and must detail the FISMA capabilities of the system in each of CIA assessment area.
- iii. Agency level FISMA certification, accreditation, and evaluation activities are the responsibility of the Ordering Activity. The Ordering Activity reserves the right to independently evaluate, audit, and verify the FISMA compliance for any proposed or awarded Cloud Computing Services.
- iv. The Ordering Activity has final responsibility for assessing the FedRAMP status of the service, complying with and making a risk-based decision to grant an Authorization to Operate (ATO) for the cloud computing service, and continuous monitoring. A memorandum issued by the Office of Management and Budget (OMB) on Dec 8, 2011 outlines the responsibilities of Executive departments and agencies in the context of FedRAMP compliance.<sup>3</sup>

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<sup>2</sup> Per Federal Information Processing Standards Publication 199 & 200 (FIPS 199, “Standards for Security Categorization of Federal Information and Information Systems”) (FIPS 200, “Minimum Security Requirements for Federal Information and Information Systems”)

<sup>3</sup> MEMORANDUM FOR CHIEF INFORMATION OFFICERS: Security Authorization of Information Systems in Cloud Computing Environments. December 8, 2011.

- v. Ordering activities are responsible for determining any additional information assurance and security related requirements based on the nature of the application and relevant mandates.

#### **b. Deployment Model**

If a particular deployment model (Private, Public, Community, or Hybrid) is desired, Ordering Activities are responsible for identifying the desired model(s). Alternately, Ordering Activities could identify requirements and assess Contractor responses to determine the most appropriate deployment model(s).

#### **c. Delivery Schedule**

The Ordering Activity shall specify the delivery schedule as part of the initial requirement. The Delivery Schedule options are found in Information for Ordering Activities Applicable to All Special Item Numbers.

#### **d. Interoperability**

Ordering Activities are responsible for identifying interoperability requirements. Ordering Activities should clearly delineate requirements for API implementation and standards conformance.

#### **e. Performance of Cloud Computing Services [(i.e. IaaS, etc.)]**

The Ordering Activity should clearly indicate any custom minimum service levels, performance and scale requirements as part of the initial requirement.

#### **f. Reporting**

The Ordering Activity should clearly indicate any cost, performance or availability reporting as part of the initial requirement.

#### **g. Privacy**

The Ordering Activity should specify the privacy characteristics of their service and engage with the Contractor to determine if the cloud service is capable of meeting Ordering Activity requirements. For example, a requirement could be requiring assurance that the service is capable of safeguarding Personally Identifiable Information (PII), in accordance with NIST SP 800-122<sup>4</sup> and OMB memos M-06-16<sup>5</sup> and M-07-16.<sup>6</sup> An Ordering Activity will determine what data elements constitute PII according to OMB Policy, NIST Guidance and Ordering Activity policy.

#### **h. Accessibility**

The Ordering Activity should specify the accessibility characteristics of their service and engage with the Contractor to determine the cloud service is capable of meeting Ordering Activity requirements. For example, a requirement could require assurance that the service is capable of providing accessibility based on Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d).

#### **i. Geographic Requirements**

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<sup>4</sup> NIST SP 800-122, "Guide to Protecting the Confidentiality of Personally Identifiable Information (PII)"

<sup>5</sup> OMB memo M-06-16: Protection of Sensitive Agency Information  
<http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2006/m06-16.pdf>

<sup>6</sup> OMB Memo M-07-16: Safeguarding Against and Responding to the Breach of Personally Identifiable Information <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2007/m07-16.pdf>

Ordering activities are responsible for specifying any geographic requirements and engaging with the Contractor to determine that the cloud services offered have the capabilities to meet geographic requirements for all anticipated task orders. Common geographic concerns could include whether service data, processes and related artifacts can be confined on request to the United States and its territories, or the continental United States (CONUS).

**j. Data Ownership and Retrieval and Intellectual Property**

Intellectual property rights are not typically transferred in a cloud model. In general, CSPs retain ownership of the Intellectual Property (IP) underlying their services and the customer retains ownership of its intellectual property. The CSP gives the customer a license to use the cloud services [(i.e. IaaS, etc.)] for the duration of the contract without transferring rights. The government retains ownership of the IP and data they bring to the customized use of the service as spelled out in the FAR and related materials.

General considerations of data ownership and retrieval are covered under the terms of Schedule 70 and the FAR and other laws, ordinances, and regulations (Federal, State, Local, Tribal, City, or otherwise). Because of considerations arising from cloud shared responsibility models, ordering activities should engage with the Contractor to develop more cloud-specific understandings of the boundaries between data owned by the government and that owned by the cloud service provider, and the specific terms of data retrieval.

In all cases, the Ordering Activity should enter into an agreement with a clear and enforceable understanding of the boundaries between government and cloud service provider data, and the form, format and mode of delivery for each kind of data belonging to the government.

The Ordering Activity should expect that the Contractor shall transfer data to the government at the government's request at any time, and in all cases when the service or order is terminated for any reason, by means, in formats and within a scope clearly understood at the initiation of the service. Example cases that might require clarification include status and mode of delivery for:

- Configuration information created by the government and affecting the government's use of the cloud provider's service.
- Virtual machine configurations created by the government but operating on the cloud provider's service.
- Profile, configuration and other metadata used to configure SaaS application services or PaaS platform services.

The key is to determine in advance the ownership of classes of data and the means by which Government owned data can be returned to the Government.

**k. Service Location Distribution**

The Ordering Activity should determine requirements for continuity of operations and performance and engage with the Contractor to ensure that cloud services have adequate service location distribution to meet anticipated requirements. Typical concerns include ensuring that:

- Physical locations underlying the cloud are numerous enough to provide continuity of operations and geographically separate enough to avoid an anticipated single point of failure within the scope of anticipated emergency events.
- Service endpoints for the cloud are able to meet anticipated performance requirements in terms of geographic proximity to service requestors.

Note that cloud providers may address concerns in the form of minimum distance between service locations, general regions where service locations are available, etc.

#### **~~I.—Related Professional Services~~**

~~Ordering activities should engage with Contractors to discuss the availability of limited assistance with initial setup, training and access to the services that may be available through this SIN.~~

~~Any additional substantial and ongoing professional services related to the offering are out of scope for this SIN. Ordering activities should consult the appropriate GSA professional services schedule.~~

### **5. GUIDANCE FOR CONTRACTORS**

This section offers guidance for interpreting the Contractor Description Requirements in Table 2, including the NIST essential cloud characteristics, service models and deployment models. This section is not a list of requirements.

Contractor-specific definitions of cloud computing characteristics and models or significant variances from the NIST essential characteristics or models are discouraged and will **not** be considered in the scope of this SIN or accepted in response to Factors for Evaluation. The only applicable cloud characteristics, service model/subcategories and deployment models for this SIN will be drawn from the NIST 800-145 special publication. Services qualifying for listing as cloud computing services [(i.e. IaaS, etc.)] under this SIN must substantially satisfy the essential characteristics of cloud computing as documented in the NIST Definition of Cloud Computing SP 800-145<sup>7</sup>.

Contractors must select deployment models corresponding to each way the service can be deployed. Multiple deployment model designations for a single cloud service are permitted but at least one deployment model must be selected.

In addition, contractors submitting [cloud] services [(i.e. IaaS, etc.)] for listing under this SIN are encouraged to select a sub-category for each [cloud] service [(i.e. IaaS, etc.)] proposed under this SIN with respect to a single principal NIST cloud service model that most aptly characterizes the service. [Cloud] Servicemodel [(i.e. IaaS, etc.)] categorization is optional.

Both [cloud] service [model] [(i.e. IaaS, etc.)] and deployment model [(i.e. public, etc.)] designations must accord with NIST definitions. Guidance is offered in this document on making the most appropriate selection.

#### **General Guidance**

##### **a. NIST Essential Characteristics**

NIST's essential cloud characteristics provide a consistent metric for whether a service is eligible for inclusion in this SIN. It is understood that due to legislative, funding and other constraints that government entities cannot always leverage a cloud service to the extent that all NIST essential characteristics are commercially available. For the purposes of the Cloud SIN, meeting the NIST essential characteristics is determined by whether each essential capability of the commercial service is available for the service, whether or not the Ordering Activity actually requests or implements the capability. The guidance in Table 3 offers examples of how services might or might not be included based on the essential characteristics, and how the Contractor should interpret the characteristics in light of current

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<sup>7</sup> <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>

government contracting processes.

**Table 3: Guidance on Meeting NIST Essential Characteristics**

Characteristic	Capability	Guidance
On-demand self-service	<ul style="list-style-type: none"> <li>• Ordering activities can directly provision services without requiring Contractor intervention.</li> <li>• This characteristic is typically implemented via a service console or programming interface for provisioning</li> </ul>	<p>Government procurement guidance varies on how to implement on-demand provisioning at this time.</p> <p>Ordering activities may approach on-demand in a variety of ways, including “not-to-exceed” limits, or imposing monthly or <b><i>[other appropriate payment cycles]</i></b> <del>annual payments</del> on what are essentially on demand services.</p> <p>Services under this SIN must be capable of true on- demand self-service, and ordering activities and Contractors must negotiate how they implement on demand capabilities in practice at the task order level:</p> <ul style="list-style-type: none"> <li>• Ordering activities must specify their procurement approach and requirements for on-demand service</li> <li>• Contractors must propose how they intend to meet the approach</li> <li>• Contractors must certify that on-demand self-service is technically available for their service should procurement guidance become available.</li> </ul>
Broad Network Access	<ul style="list-style-type: none"> <li>• Ordering activities are able to access services over standard agency networks</li> <li>• Service can be accessed and <del>consumed</del> <b><i>[provisioned]</i></b> using standard devices such as browsers, tablets and mobile phones</li> </ul>	<ul style="list-style-type: none"> <li>• Broad network access must be available without significant qualification and in relation to the deployment model and security domain of the service</li> <li>• Contractors must specify any ancillary activities, services or equipment required to access cloud services or integrate cloud with other cloud or non- cloud networks and services. For example, a private cloud might require an Ordering Activity to purchase or provide a dedicated router, etc. which is acceptable but should be indicated by the Contractor.</li> </ul>
Resource Pooling	<ul style="list-style-type: none"> <li>• Pooling distinguishes cloud services from <b><i>[simple]</i></b> offsite hosting.</li> <li>• Ordering activities draw resources from a common pool maintained by the Contractor</li> </ul>	<ul style="list-style-type: none"> <li>• The cloud service must draw from a pool of resources and provide an automated means for the Ordering Activity to dynamically allocate them.</li> <li>• Manual allocation, e.g. manual operations at a physical server farm where Contractor staff configure servers in response to Ordering</li> </ul>



	<ul style="list-style-type: none"> <li>Resources may have general characteristics such as regional location</li> </ul>	<p>Activity requests, does not meet this requirement</p> <ul style="list-style-type: none"> <li>Similar concerns apply to software and platform models; automated provisioning from a pool is required</li> <li>Ordering activities may request dedicated physical hardware, software or platform resources to access a private cloud deployment service. However the provisioned cloud resources must be drawn from a common pool and automatically allocated on request.</li> </ul>
Rapid Elasticity	<ul style="list-style-type: none"> <li>Rapid provisioning and de-provisioning commensurate with demand</li> </ul>	<ul style="list-style-type: none"> <li>Rapid elasticity is a specific demand-driven case of self-service</li> <li><del>Procurement guidance for on-demand self-service applies to rapid elasticity as well, i.e. rapid elasticity must be technically available but ordering activities and Contractors may mutually negotiate other contractual arrangements for procurement and payment.</del></li> <li>'Rapid' should be understood as measured in minutes and hours, not days or weeks.</li> <li>Elastic capabilities by manual request, e.g. via a console operation or programming interface call, are required.</li> <li>Automated elasticity which is driven dynamically by system load, etc. is optional. Contractors must specify whether automated demand-driven elasticity is available and the general mechanisms that drive the capability.</li> </ul>
Measured Service	<ul style="list-style-type: none"> <li>Measured service should be understood as a reporting requirement that enables an Ordering Activity to control their use in cooperation with self service</li> </ul>	<ul style="list-style-type: none"> <li>Procurement guidance for on-demand self-service applies to measured service as well, i.e. rapid elasticity must be technically available but ordering activities and Contractors may mutually designate other contractual arrangements.</li> <li>Regardless of specific contractual arrangements, reporting must indicate actual usage, be continuously available to the Ordering Activity, and provide meaningful metrics appropriate to the service measured</li> <li>Contractors must specify that measured service is available and the general sort of metrics and mechanisms available</li> <li><b><i>[The goal of the Measured Service requirement is to ensure Ordering Activities realize the full benefit of "pay as you go" consumption models. Consumption measurements that are</i></b></li> </ul>

		<i>not discrete enough or frequent enough [(greater than one month)], will not fulfill this NIST essential characteristic and will not be eligible for inclusion in this SIN.]</i>
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### Inheriting Essential Characteristics

Cloud // services [(i.e. IaaS, etc.)] may depend on other cloud services, and cloud service models such as PaaS and SaaS are able to inherit essential characteristics from other cloud services that support them. For example a PaaS platform service can inherit the broad network access made available by the IaaS service it runs on, and in such a situation would be fully compliant with the broad network access essential characteristic. *[Cloud ]* Services [(i.e. IaaS, etc.)] inheriting essential characteristics must make the inherited characteristic fully available at their level of delivery to claim the relevant characteristic by inheritance.

Inheriting characteristics does not require the inheriting provider to directly bundle or integrate the inherited service, but it does require a reasonable measure of support and identification. For example, the Ordering Activity may acquire an IaaS service from “Provider A” and a PaaS service from “Provider B”. The PaaS service may inherit broad network access from “Provider A” but must identify and support the inherited service as an acceptable IaaS provider.

### Assessing Broad Network Access

Typically, broad network access for public deployment models implies high bandwidth access from the public internet for authorized users. In a private cloud deployment internet access might be considered broad access, as might be access through a dedicated shared high bandwidth network connection from the Ordering Activity, in accord with the private nature of the deployment model.

### Resource Pooling and Private Cloud

All cloud resource pools are finite, and only give the appearance of infinite resources when sufficiently large, as is sometimes the case with a public cloud. The resource pool supporting a private cloud is typically smaller with more visible limits. A finite pool of resources purchased as a private cloud service qualifies as resource pooling so long as the resources within the pool can be dynamically allocated to the ultimate users of the resource, even though the pool itself appears finite to the Ordering Activity that procures access to the pool as a source of dynamic service allocation.

#### b. NIST Service Model

The Contractor may optionally document the service model of cloud computing (e.g. IaaS, PaaS, SaaS, or a combination thereof, that most closely describes their offering, using the definitions in The NIST Definition of Cloud Computing SP 800-145. The following guidance is offered for the proper selection of service models.

NIST’s service models provide this SIN with a set of consistent sub-categories to assist ordering activities in locating and comparing *[cloud ]* services [(i.e. IaaS, etc.)] of interest. Service model is primarily

concerned with the nature of the service offered and the staff and activities most likely to interact with the service. Contractors should select a single service model most closely corresponding to their proposed service based on the guidance below. It is understood that cloud services can technically incorporate multiple service models and the intent is to provide the single best categorization of the service.

Contractors should take care to select the NIST service model most closely corresponding to each service offered. Contractors should not invent, proliferate or select multiple cloud service model sub-categories to distinguish their offerings, because ad-hoc categorization prevents consumers from comparing similar offerings. Instead vendors should make full use of the existing NIST categories to the fullest extent possible.

For example, in this SIN an offering commercially marketed by a Contractor as “Storage as a Service” would be properly characterized as Infrastructure as a Service (IaaS), storage being a subset of infrastructure. Services commercially marketed as “LAMP as a Service” or “Database as a Service” would be properly characterized under this SIN as Platform as a Service (PaaS), as they deliver two kinds of platform services. Services commercially marketed as “Travel Facilitation as a Service” or “Email as a Service” would be properly characterized as species of Software as a Service (SaaS) for this SIN.

However, Contractors can and should include appropriate descriptions (include commercial marketing terms) of the service in the full descriptions of the service’s capabilities.

When choosing between equally plausible service model sub-categories, Contractors should consider several factors:

- 1) **Visibility to the Ordering Activity.** Service model sub-categories in this SIN exist to help Ordering Activities match their requirements with service characteristics. Contractors should select the most intuitive and appropriate service model from the point of view of an Ordering Activity.
- 2) **Primary Focus of the [Cloud] Service [(i.e. IaaS, etc.)].** Services may offer a mix of capabilities that span service models in the strict technical sense. For example, a service may offer both IaaS capabilities for processing and storage, along with some PaaS capabilities for application deployment, or SaaS capabilities for specific applications. In a service mix situation the Contractor should select the service model that is their primary focus. Alternatively, contractors may choose to submit multiple service offerings for the SIN, each optionally and separately subcategorized.
- 3) **Ordering Activity Role.** Contractors should consider the operational role of the Ordering Activity’s primary actual consumer or operator of the service. For example services most often consumed by system managers are likely to fit best as IaaS; services most often consumed by application deployers or developers as PaaS, and services most often consumed by business users as SaaS.
- 4) **Lowest Level of Configurability.** Contractors can consider IaaS, PaaS and SaaS as an ascending hierarchy of complexity, and select the model with the lowest level of available Ordering Activity interaction. As an example, virtual machines are an IaaS service often bundled with a range of operating systems, which are PaaS services. The Ordering Activity usually has access to configure the lower level IaaS service, and the overall service should be considered IaaS. In cases where the Ordering Activity cannot configure the speed, memory, network configuration, or any other aspect of the IaaS component, consider categorizing as a PaaS service.

Cloud management and cloud broker services should be categorized based on their own characteristics and not those of the other cloud services that are their targets. Management and broker services typically fit the SaaS service model, regardless of whether the services they manage are SaaS, PaaS or IaaS. Use Table 3 to determine which service model is appropriate for the cloud management or cloud broker services, or, alternately choose not to select a service model for the service.

The guidance in Table [4] offers examples of how services might be properly mapped to NIST service models and how a Contractor should interpret the service model sub-categories.

**Table 4: Guidance on Mapping to NIST Service Models**

Service Model	Guidance
Infrastructure as a Service (IaaS)	<p>Select an IaaS model for service based equivalents of hardware appliances such as virtual machines, storage devices, routers and other physical devices.</p> <ul style="list-style-type: none"> <li>• IaaS services are typically consumed by system or device managers who would configure physical hardware in a non-cloud setting</li> <li>• The principal customer interaction with an IaaS service is provisioning then configuration, equivalent to procuring and then configuring a physical device.</li> </ul> <p>Examples of IaaS services include virtual machines, object storage, disk block storage, network routers and firewalls, software defined networks.</p> <p>Gray areas include services that emulate or act as dedicated appliances and are directly used by applications, such as search appliances, security appliances, etc. To the extent that these services or their emulated devices provide direct capability to an application they might be better classified as Platform services (PaaS). To the extent that they resemble raw hardware and are consumed by other platform services they are better classified as IaaS.</p>
Platform as a Service (PaaS)	<p>Select a PaaS model for service based equivalents of complete or partial software platforms. For the purposes of this classification, consider a platform as a set of software services capable of deploying all or part of an application.</p> <ul style="list-style-type: none"> <li>• A complete platform can deploy an entire application. Complete platforms can be proprietary or open source</li> <li>• Partial platforms can deploy a component of an application which combined with other components make up the entire deployment</li> <li>• PaaS services are typically consumed by application deployment staff whose responsibility is to take a completed agency application and cause it to run on the designated complete or partial platform service</li> <li>• The principal customer interaction with a PaaS service is deployment, equivalent to deploying an application or portion of an application on a software platform service.</li> <li>• A limited range of configuration options for the platform service may be available.</li> </ul> <p>Examples of complete PaaS services include:</p> <ul style="list-style-type: none"> <li>• A Linux/Apache/MySQL/PHP (LAMP) platform ready to deploy a customer PHP application,</li> <li>• a Windows .Net platform ready to deploy a .Net application,</li> </ul>

	<ul style="list-style-type: none"> <li>• A custom complete platform ready to develop and deploy an customer application in a proprietary language</li> <li>• A multiple capability platform ready to deploy an arbitrary customer application on a range of underlying software services.</li> </ul> <p>The essential characteristic of a complete PaaS is defined by the customer's ability to deploy a complete custom application directly on the platform.</p> <p>PaaS includes partial services as well as complete platform services. Illustrative examples of individual platform enablers or components include:</p> <ul style="list-style-type: none"> <li>• A database service ready to deploy a customer's tables, views and procedures,</li> <li>• A queuing service ready to deploy a customer's message definitions</li> <li>• A security service ready to deploy a customer's constraints and target applications for continuous monitoring</li> </ul> <p>The essential characteristic of an individual PaaS component is the customer's ability to deploy their unique structures and/or data onto the component for a partial platform function.</p> <p>Note that both the partial and complete PaaS examples all have two things in common:</p> <ul style="list-style-type: none"> <li>• They are software services, which offer significant core functionality out of the box</li> <li>• They must be configured with customer data and structures to deliver results</li> </ul> <p>As noted in IaaS, operating systems represent a gray area in that OS is definitely a platform service, but is typically bundled with IaaS infrastructure. If your service provides an OS but allows for interaction with infrastructure, please sub-categorize it as IaaS. If your service "hides" underlying infrastructure, consider it as PaaS.</p>
Software as a Service (SaaS)	<p>Select a SaaS model for service based equivalents of software applications.</p> <ul style="list-style-type: none"> <li>• SaaS services are typically consumed by business or subject-matter staff who would interact directly with the application in a non-cloud setting</li> <li>• The principal customer interaction with a SaaS service is actual operation and consumption of the application services the SaaS service provides.</li> </ul> <p>Some minor configuration may be available, but the scope of the configuration is limited to the scope and then the permissions of the configuring user. For example an agency manager might be able to configure some aspects of the application for their agency but not all agencies. An agency user might be able to configure some aspects for themselves but not everyone in their agency. Typically only the Contractor would be permitted to configure aspects of the software for all users.</p> <p>Examples of SaaS services include email systems, business systems of all sorts such as travel systems, inventory systems, etc., wiki's, websites or content</p>

	<p>management systems, management applications that allow a customer to manage other cloud or non-cloud services, and in general any system where customers interact directly for a business purpose.</p> <p>Gray areas include services that customers use to configure other cloud services, such as cloud management software, cloud brokers, etc. In general these sorts of systems should be considered SaaS, per guidance in this document.</p>
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### c. Deployment Model

Deployment models (e.g. private, public, community, or hybrid) are not restricted at the SIN level and any specifications for a deployment model are the responsibility of the Ordering Activity.

Multiple deployment model selection is permitted, but at least one model must be selected. The guidance in Table 4 offers examples of how services might be properly mapped to NIST deployment models and how the Contractor should interpret the deployment model characteristics. Contractors should take care to select the range of NIST deployment models most closely corresponding to each service offered.

Note that the scope of this SIN does not include hardware or software components used to construct a cloud, only cloud capabilities delivered as a service, as noted in the Scope section.

**Table 5: Guidance for Selecting a Deployment Model**

Deployment Model	Guidance
<b>Private Cloud</b>	The service is provided exclusively for the benefit of a definable organization and its components; access from outside the organization is prohibited. The actual services may be provided by third parties, and may be physically located as required, but access is strictly defined by membership in the owning organization.
<b>Public Cloud</b>	The service is provided for general public use and can be accessed by any entity or organization willing to contract for it.
<b>Community Cloud</b>	The service is provided for the exclusive use of a community with a definable shared boundary such as a mission or interest. As with private cloud, the service may be in any suitable location and administered by a community member or a third party.
<b>Hybrid Cloud</b>	The service is composed of one or more of the other models. Typically hybrid models include some aspect of transition between the models that make them up, for example a private and public cloud might be designed as a hybrid cloud where events like increased load permit certain specified services in the private cloud to run in a public cloud for extra capacity, e.g. bursting.

## **FACTORS FOR EVALUATION**

### **FOR IT SCHEDULE 70 CLOUD COMPUTING ~~/PRODUCT AND PROFESSIONAL/~~ SERVICES**

The following technical evaluation factor applies in addition to the standard Schedule 70 evaluation factors outlined in CI-FSS-152-N Additional Evaluation Factors for New Offerors Under Schedule 70 or CI-FSS-152-S Additional Evaluation Factors for Successful FSS Program Contractors Under Schedule 70 and related documents and applies solely to the Cloud Computing Services SIN. A template will be provided at the time of solicitation refresh to complete the requested documentation.

#### **FACTOR – Cloud Computing Services Adherence to Essential Cloud Characteristics**

Within a two-page limitation for each cloud service ~~[(i.e. IaaS, etc.)]~~ submitted, provide a description of how the cloud computing service meets each of the five essential cloud computing characteristics as defined in described in National Institute of Standards and Technology (NIST) Special Publication 800-145 and subsequent versions of this publication. This standard specifies the definition of cloud computing for the use by Federal agencies. The cloud service must be capable of satisfying each of the five NIST essential Characteristics as follows:

- ~~On-Demand Self-Service~~
- ~~Broad Network Access~~
- ~~Resource Pooling~~
- ~~Rapid Elasticity~~
- ~~Measured Service~~

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing ~~/Product and Professional/~~ Services SIN ~~[/for]~~ guidance on meeting the NIST characteristics. For the purposes of the Cloud Computing ~~/Product/~~ Services SIN, meeting the NIST essential characteristics is concerned primarily with whether the underlying capability of the commercial service is available; whether or not an Ordering Activity actually requests or implements the capability.

#### **FACTOR – Cloud Computing ~~/Product/~~ Services Deployment Model**

For each cloud ~~//~~ service submitted, provide a written description of how the proposed service meets the NIST definition of a particular deployment model (Public, Private, Community, or Hybrid), within a one half (1/2) page limitation for each designated deployment model of each cloud service submitted. Multiple deployment model selection is permitted, but at least one model must be indicated.

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing ~~/Product And Professional/~~ Services SIN for guidance on identifying the appropriate deployment model according to the NIST service model definitions.

#### **FACTOR – Cloud Computing ~~/Product/~~ Services Service Model**

For each cloud computing ~~//~~ service proposed to be categorized under a specific sub-category (IaaS, PaaS or SaaS), provide a written description of how the proposed service meets the NIST definition of that service model, within a half (1/2) page limitation for each cloud service submitted.

Refer to the ‘Guidance for Contractors’ section of the Terms & Conditions for the Cloud Computing Services ~~[this]~~ SIN for guidance on categorizing the service into a sub-category according to the NIST service model definitions.

Note that it is not mandatory to select a sub-category, and therefore this factor for evaluation applies ONLY

~~to cloud services proposed to fall under a specific sub-category. If no sub-category is selected, this factor does not need to be addressed. The two other factors ('Adherence to Essential Cloud Characteristics' and 'Cloud Computing [Product] Services Deployment Model') apply to all cloud services.~~

## ***/6. INFORMATION PERTAINING TO CLOUD RELATED IT PROFESSIONAL SERVICES***

***NOTE: Offerors may offer Cloud Services (i.e. IaaS, etc.) exclusively; it is not a requirement to also offer Cloud Related IT Professional Services. Similarly, offerors of Cloud Related IT Professional Services are not required to also offer Cloud Services (i.e. IaaS, etc.). Offerors who have capabilities in both Cloud Services (i.e. IaaS, etc.) and Cloud Related IT Professional Services may offer both, under this SIN.***

***NOTE: \*\*\*\*Labor categories under Special Item Number 132-51 "Information Technology Professional Services may remain under SIN 132-51, unless they are specific to the Cloud Computing Products and IT Professional Services 132-40. Labor specific to Cloud Computing should be positioned by Contractors under SIN 132-40 in order for Contractors to have the opportunity to bid on requests for quotes that are generated exclusively under the Cloud SIN. Offerors may offer Cloud IT Professional Services exclusively; it is not a requirement to also offer Cloud Services (i.e. IaaS).***

### ***1. SCOPE OF 132-40 Cloud Related IT Professional Services***

- a. The labor categories, prices, terms and conditions stated under Special Item Numbers 132-40 Cloud Services and Related IT Professional Services apply exclusively to this SIN within the scope of this Information Technology Schedule. It is anticipated that the relevant IT Professional Services for this SIN (132-40) are related to the following: assessing cloud solutions, preparing for cloud solutions, refactoring legacy solutions for cloud migration, migrating legacy or other systems to cloud solutions, and providing governance for cloud solutions. Contractors may propose other types of relevant services as long as they are specifically designed to support the types of cloud product services described in SIN 132-40.***
- b. Cloud Related IT Professional Services provided under this SIN shall comply with all certifications and industry standards as applicable pertaining to the type of services as specified by ordering agency.***
- c. The Contractor shall provide Cloud Related IT Professional Services at the Contractor's facility and/or at the ordering activity location, as agreed to by the Contractor and the ordering activity.***

### ***2. ORDER***

- a. Agencies may use written orders, Electronic Data Interchange (EDI) orders, Blanket Purchase Agreements, individual purchase orders, or task orders for ordering services under this contract. Blanket Purchase Agreements shall not extend beyond the end of the contract period; all services and delivery shall be made and the contract terms and conditions shall continue in effect until the completion of the order. Orders for tasks which extend beyond the fiscal year for which funds are available shall include FAR 52.232-19 (Deviation – May 2003) Availability of Funds for the Next Fiscal Year. The order shall specify the availability of funds and the***



*period for which funds are available.*

- b. All task orders are subject to the terms and conditions of the contract. In the event of conflict between a task order and the contract, the contract will take precedence.*

**3. PERFORMANCE OF SERVICES**

- a. The Contractor shall commence performance of Cloud Related IT Professional Services on the date agreed to by the Contractor and the ordering activity.*
- b. The Contractor agrees to render Cloud Related IT Professional Services during normal working hours, unless otherwise agreed to by the Contractor and the ordering activity.*
- c. The ordering activity should include the criteria for satisfactory completion for each task in the Statement of Work or Delivery Order. Cloud Related IT Professional Services shall be completed in a good and workmanlike manner.*
- d. Any Contractor travel required in the performance of Cloud Related IT Professional Services must comply with the Federal Travel Regulation or Joint Travel Regulations, as applicable, in effect on the date(s) the travel is performed. Established Federal Government per diem rates will apply to all Contractor travel. Contractors cannot use GSA city pair contracts. All travel will be agreed upon with the client prior to the Contractor's travel.*

**4. INSPECTION OF SERVICES**

*Inspection of services is in accordance with 552.212-4 - CONTRACT TERMS AND CONDITIONS – COMMERCIAL ITEMS (MAY 2015) (ALTERNATE II – JUL 2009) (FAR DEVIATION – JUL 2015) (TAILORED) for Firm-Fixed Price and Time-and-Materials and Labor-Hour Contracts orders placed under this contract.*

**5. RESPONSIBILITIES OF THE CONTRACTOR**

*The Contractor shall comply with all laws, ordinances, and regulations (Federal, State, City, or otherwise) covering work of this character. If the end product of a task order is software, then FAR 52.227-14 (MAY 2014) Rights in Data – General, may apply.*

*The Contractor shall comply with contract clause (52.204-21) to the Federal Acquisition Regulation (FAR) for the basic safeguarding of contractor information systems that process, store, or transmit Federal data received by the contract in performance of the contract. This includes contract documents and all information generated in the performance of the contract.*

**6. RESPONSIBILITIES OF THE ORDERING ACTIVITY**

*Subject to the ordering activity's security regulations, the ordering activity shall permit Contractor access to all facilities necessary to perform the requisite Cloud Computing IT Professional Services.*

**7. INDEPENDENT CONTRACTOR**

*All Cloud Computing IT Professional Services performed by the Contractor under the terms*

*of this contract shall be as an independent Contractor, and not as an agent or employee of the ordering activity.*

## **8. ORGANIZATIONAL CONFLICTS OF INTEREST**

### **a. Definitions.**

*“Contractor” means the person, firm, unincorporated association, joint venture, partnership, or corporation that is a party to this contract.*

*“Contractor and its affiliates” and “Contractor or its affiliates” refers to the Contractor, its chief executives, directors, officers, subsidiaries, affiliates, subcontractors at any tier, and consultants and any joint venture involving the Contractor, any entity into or with which the Contractor subsequently merges or affiliates, or any other successor or assignee of the Contractor.*

*An “Organizational conflict of interest” exists when the nature of the work to be performed under a proposed ordering activity contract, without some restriction on ordering activities by the Contractor and its affiliates, may either (i) result in an unfair competitive advantage to the Contractor or its affiliates or (ii) impair the Contractor’s or its affiliates’ objectivity in performing contract work.*

### **b. To avoid an organizational or financial conflict of interest and to avoid prejudicing the best interests of the ordering activity, ordering activities may place restrictions on the Contractors, its affiliates, chief executives, directors, subsidiaries and subcontractors at any tier when placing orders against schedule contracts. Such restrictions shall be consistent with FAR 9.505 and shall be designed to avoid, neutralize, or mitigate organizational conflicts of interest that might otherwise exist in situations related to individual orders placed against the schedule contract. Examples of situations, which may require restrictions, are provided at FAR 9.508.**

## **9. INVOICES**

*The Contractor, upon completion of the work ordered, shall submit invoices for Cloud Computing IT Professional Services. Progress payments may be authorized by the ordering activity on individual orders if appropriate. Progress payments shall be based upon completion of defined milestones or interim products. Invoices shall be submitted monthly for recurring IT professional services performed during the preceding month.*

## **[10. PAYMENTS**

*For firm-fixed price orders the ordering activity shall pay the Contractor, upon submission of proper invoices or vouchers, the prices stipulated in this contract for service rendered and accepted. Progress payments shall be made only when authorized by the order. For time-and-materials orders, the Payments under Time-and-Materials and Labor-Hour Contracts at FAR 52.212-4 (MAR 2009) (ALTERNATE I – OCT 2008) (DEVIATION I – FEB 2007) applies to time-and-materials orders placed under this contract. For labor-hour orders, the Payment under Time-and-Materials and Labor-Hour Contracts at FAR 52.212-4 (MAR 2009) (ALTERNATE I – OCT 2008) (DEVIATION I – FEB 2007) applies to labor-hour orders placed under this contract. 52.216-31(Feb 2007) Time-and Materials/Labor-Hour Proposal Requirements—Commercial Item Acquisition. As*

*prescribed in 16.601(e)(3), insert the following provision:*

- a. The Government contemplates award of a Time-and-Materials or Labor-Hour type of contract resulting from this solicitation.*
- b. The offeror must specify fixed hourly rates in its offer that include wages, overhead, general and administrative expenses, and profit. The offeror must specify whether the fixed hourly rate for each labor category applies to labor performed by—*
  - (1) The offeror;*
  - (2) Subcontractors; and/or*
  - (3) Divisions, subsidiaries, or affiliates of the offeror under a common control.]*

**10. RESUMES**

*Resumes shall be provided to the GSA Contracting Officer or the user ordering activity upon request.*

**11. APPROVAL OF SUBCONTRACTS**

*The ordering activity may require that the Contractor receive, from the ordering activity's Contracting Officer, written consent before placing any subcontract for furnishing any of the work called for in a task order.*

**12. DESCRIPTION OF CLOUD COMPUTING LABOR HOURS AND PRICING**

- a. The Contractor shall provide a description of each type of Cloud Computing Professional Service offered under Special Item Numbers 132-40 and it should be presented in the same manner as the Contractor sells to its commercial and other ordering activity customers. If the Contractor is proposing hourly rates, a description of all corresponding commercial job titles (labor categories) for those individuals who will perform the service should be provided.*
- b. Pricing for all Cloud Computing IT Professional Services shall be in accordance with the Contractor's customary commercial practices; e.g., hourly rates,, minimum general experience and minimum education.*

*The following is an example of the manner in which the description of a commercial job title should be presented (see SCP FSS 004)*

**EXAMPLE**

*Commercial Job Title: Senior Cloud Subject Matter Expert*

*Description: Provides highest-level cloud computing domain expertise to large scale and complex projects as a client resource. Leads teams and client interaction from workflow design to cloud solution deliverables.*

*Professionals involved in this specialty perform the following tasks:*

- Provides in-depth knowledge and expertise from cloud computing and business domains*
- Develops and improves technical and business requirements documentation*

*and specifications*

- *Reviews client requirements during on-boarding and other project phases*
- *Presents alternatives to client based designs based on impact to cost, performance and outcomes*
- *Incorporates enterprise architecture designs from business unit services strategies*
- *Provides advisory services to the service provider, cross functional teams, and clients*

***Knowledge, Skills and Abilities:*** *Documented track record of successful client engagements in large public sector enterprise environments. 10+ years experience with SOAP, JSON, J2EE, SML, REST, OAuth, SAML, and OpenID. 4+ years experience with AD, LDAP, ODBC, SSO, CAC/PIV, STS, SSL, IEP, 3DES, 2-Factor, and STIG. Proficient with SDLC, AWS, and Oracle. Ability to thrive in a dynamic public sector environment.*

***Minimum Experience: 10 Years***

***Minimum Education Requirements: an MS degree in computer science or equivalent.***

***Highly Desirable: Deep knowledge of Microsoft Azure and Amazon Web Services core service offerings./***

## **G) Questions for Industry**

GSA would like to obtain feedback from industry regarding the proposed draft changes to the Cloud SIN and supporting language. Our primary objective is to update the language to support the needs of the Federal Government while taking into account the commercial business practices and models of cloud vendors.

1. For overall Cloud Services, can they be developed and or modified in order to offer to customers that are OCONUS (Outside Continental United States) via GSA Schedule 70? If not, what are the issues that would prevent it from being offered?
2. For Cloud Services (i.e. IaaS, etc.), is there anything in the proposed language that would impede the Government's desire to gain access to Cloud products?
3. For Cloud Services (i.e. IaaS, etc.), is there a more precise way to describe the minimal increment of the "metered services" requirement to reflect the Government's desire to gain the benefit of "pay as you go" consumption? How is the "pay-as-you-go" model currently structured with regard to price? Is there an alternative approach that would be more effective?
4. For Cloud Services (i.e. IaaS, etc.), if there are instances when Cloud products cannot meet the requirement of frequent incremental billing because they require annual fees, are there any examples when these products could not be considered Term Licenses (132-32)?
5. For Cloud-Related IT Professional Services, are there any particular services that are relevant for supporting the Government's migration and adoption of Cloud products that should be added to

the list of eligible services?

6. For Cloud-Related IT Professional Services, is there a better way to describe the services that the Government seeks to support its desire to find specific expertise related to Cloud deployments?
7. For Cloud-Related IT Professional Services, is there anything in the proposed language that would inhibit contractors or impede the Government's access to providers of Cloud related services? Would the services have to meet FISMA requirements?

## **H) Questions for Government Agencies**

While the primary purpose of this RFI is to gather information from industry, GSA also welcomes feedback from Federal Government agencies about any aspect of the RFI. Industry partners do not need to respond to these questions.

1. For overall Cloud Services (i.e. IaaS, etc.), does your agency or will your agency require GSA Schedule service(s) be developed in order to offer to OCONUS (Outside Continental United States) end users?
2. Do you anticipate that Cloud Services (i.e. IaaS, etc.) under the proposed definition would eventually account for significant acquisitions for your agency?
3. Do you believe that organizing both Cloud Services (i.e. IaaS, etc.) and Cloud-Related IT professional services under one SIN will simplify your access to contractors that specialize in Cloud?
4. Have you experienced buying Cloud Services (i.e. IaaS, etc.) that do not actually fit the definition of Cloud as defined by NIST because the "pay as you go" consumption requirement has not been offered?
5. Do you think your agency has a need for Cloud-Related IT Professional Services to support your adoption or migration to Cloud computing?
6. Do you see anything in the proposed language for either Cloud Computing Services (i.e. IaaS, etc.) or Cloud-Related IT Professional Services that would inhibit or impede your ability to gain access to Cloud related products or services?

## **I) Deadline for Responses**

Your response must be provided no later than **Tuesday, October 9, 2018**.

Response packages should be sent by email to [stacy.lowe@gsa.gov](mailto:stacy.lowe@gsa.gov). Please include a subject line of:

**IT Schedule 70 RFI Response re: Software SINs**

## **J) Use of Results and Confidentiality**

The results of the RFI will be used to inform a GSA decision on potential changes to the solicitation. The release of this RFI does not guarantee that the government will, in the end, complete an acquisition or change the solicitation. The RFI is for information and planning purposes only and does not constitute a solicitation for bids, proposals or quotes and is not to be construed as a commitment by the government to issue a request for proposals/quote or award of a contract as a result of this request. This announcement is not a Request for Proposals (RFP) or a Request for Quote (RFQ). The government will not reimburse respondents for any cost associated with information submitted in response to this request.

Any document submitted in response to this RFI that contains confidential and proprietary information must be marked as containing confidential information. Each page upon which confidential information appears must be marked as containing confidential information. The confidential information must be clearly identifiable to the reader wherever it appears. All other information will not be treated as confidential.

All information marked confidential in RFI responses is only for the government's planning use. Confidential information may be reviewed by contractors providing advisory services within scope of contract, subject to a non-disclosure agreement (NDA) including but not limited to commercial or financial data obtained from or contained in contractor/vendor submitted documents. Otherwise, no information marked confidential included in this document or in discussions connected to it may be disclosed to any other party outside the government.